

Remarks

Reconsideration of this Application is respectfully requested.

Claims 1, 2, 4-28, and 30-33 are pending in the application, with 1, 12, 16, 17, 24, 26, 27, and 32 being the independent claims. Claims 1, 12, 16, 17, 24, 26, 27, and 32 are presently amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendments and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1, 2, 12, 17-19, 24, 27, and 28

The Examiner has rejected claims 1, 2, 12, 17-19, 24, 27, and 28 under 35 U.S.C. § 103(a) as being obvious over International Publication No. WO 00/27092 to Eicon Technology Corporation ("Eicon") in view of U.S. Patent No. 6,016,512 to Huitema ("Huitema").

Independent claim 1 recites a "method for caching domain name system information in a network gateway that includes a customer premises equipment interface, a network interface, and a cache for storing domain names and corresponding IP addresses." The recited method of claim 1 as amended includes:

loading the cache with a preliminary set of domain names and corresponding IP addresses;

receiving a domain name system query from a customer premises equipment over the customer premises equipment interface, said query including an unresolved domain name;

determining if said unresolved domain name is stored in the cache;

if said unresolved domain name is stored in the cache, obtaining an IP address corresponding to said unresolved domain name from the cache, generating a response to said query that includes said IP address corresponding to said unresolved domain name, and providing said response to the customer premises equipment interface for transmission to said customer premises equipment; and

if said unresolved domain name is not stored in said cache, providing said query to the network interface for transmission to a network for resolution of said query;

wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity.

The combination of Eicon and Huitema does not teach or suggest each of the foregoing features of independent claim 1. For example, Eicon does not teach or suggest "loading the cache with a preliminary set of domain names and corresponding IP addresses ... wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity" as recited in claim 1.

Huitema describes a system that prefetches most frequently used domain names as follows:

According to the present invention, local cache servers 310, located near local computers 110, contain a large portion of the DNS data. Thus, in most cases, request from local computers 110 will be serviced directly by local cache servers 310. The DNS data contained in local cache servers 310 are not collected by the local cache servers 310 themselves, as in the prior art systems, but

rather are provided by network cache servers 340. Specifically, network cache servers 340 update local cache servers 310 on a predetermined basis by providing DNS records consisting preferably of three data sets. The type and scope of data included in the MFU DNs may vary, however. (Huitema at col. 3, ll. 44-55).

The first data set is a list of the most active names together with the corresponding name and address records ... (Huitema at col. 3, ll. 56-57).

The second data set is a complete listing of the existing names at the root level and, preferably, also second level DNs of the most frequently accessed domain ... (Huitema at col. 4, ll. 3-5).

The third data set is a listing of the highest levels of the DNS inverse tree used by servers to locate the origin of Internet connections. (Huitema at col. 4, ll. 18-20).

Unlike claim 1, which is directed to loading the cache with a preliminary set of domain names and corresponding IP addresses that the customer premises equipment is entitled to have access to based on restrictions made by a network entity, Huitema does not provision its data sets based on the permissions given to a customer premises equipment. Huitema's network cache servers may update the local cache servers with data sets containing DNS records for addresses that could potentially be inaccessible to a set of users of the local cache servers. Because Huitema does not concern itself with providing only DNS records which are accessible by users of a local cache server, the present invention provides an efficiency improvement over Huitema in configuring a network gateway.

In view of the foregoing, Applicants respectfully submit that the combination of Eicon and Huitema does not teach or suggest each and every feature of independent claim 1. Accordingly, the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) is

traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, dependent claim 2 is also not rendered obvious by Eicon and Huitema for at least the same reasons as independent claim 1 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 2 under 35 U.S.C. § 103(a) is also traversed and Applicants respectfully request that the rejection be withdrawn.

Independent claim 12 recites a "method for caching domain name system information in a network gateway that includes a customer premises equipment interface, a network interface, and a cache for storing domain names and corresponding IP addresses." The recited method of claim 12 as amended includes:

loading the cache with a preliminary set of domain names and corresponding IP addresses;

receiving a domain name system response from a network over the network interface, said response including a response domain name and an IP address corresponding to said response domain name;

storing said response domain name and said IP address corresponding to said response domain name in the cache; and

providing said response to the customer premises equipment interface for transmission to a customer premises equipment;

wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest "loading the cache with a preliminary set of domain names and corresponding IP addresses ... wherein the preliminary set of domain names

and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 12 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Independent claim 17 recites a "network gateway." The recited network gateway of claim 17 as amended includes:

a memory, said memory comprising a cache that stores domain names and corresponding IP addresses, wherein said cache is loaded with a preliminary set of domain names and corresponding IP addresses;

a customer premises equipment interface that receives a domain name system query from a customer premises equipment, said query including an unresolved domain name;

a network interface that communicates with a network; and

a processor coupled to said memory, said customer premises equipment interface, and said network interface, said processor configured to receive said domain name system query from said customer premises equipment and to determine if said unresolved domain name is stored in said cache;

wherein said processor is further configured to obtain an IP address corresponding to said unresolved domain name from said cache, generate a response to said query that includes said IP address corresponding to said unresolved domain name, and provide said response to said customer premises equipment interface for transmission to said customer premises equipment, if said unresolved domain name is stored in said cache;

wherein said processor is further configured to provide said query to said network interface for transmission to a network for resolution of said query if said unresolved domain name is not stored in said cache; and

wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in

an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest a cache that is "loaded with a preliminary set of domain names and corresponding IP addresses ... wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 17 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, dependent claims 18 and 19 are also not rendered obvious by Eicon and Huitema for at least the same reasons as independent claim 17 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 18 and 19 under 35 U.S.C. § 103(a) is also traversed and Applicants respectfully request that the rejection be withdrawn.

Independent claim 24 recites a "network gateway." The recited network gateway of claim 24 as amended includes:

a memory, said memory comprising a cache that stores domain names and corresponding IP addresses, wherein said cache is loaded with a preliminary set of domain names and corresponding IP addresses;

a customer premises equipment interface that communicates with a customer premises equipment;

a network interface that receives a domain name system response from a network, said response including a response domain name and an IP address corresponding to said response domain name; and

a processor coupled to said memory, said customer premises equipment interface, and said network interface, said processor configured to store said response domain name and said IP address corresponding to said response domain name in said cache and provide said response to the customer premises equipment interface for transmission to a customer premises equipment;

wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest a cache that is "loaded with a preliminary set of domain names and corresponding IP addresses ... wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 24 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Independent claim 27 recites a "computer program product comprising a computer useable medium having computer program logic for enabling a processor in a network gateway to perform caching of domain name system information, said network gateway further including a customer premises equipment interface, a network interface, and a cache for storing domain names and corresponding IP addresses." The recited computer program product of claim 27 as amended includes:

means for enabling the processor to load the cache with a preliminary set of domain names and corresponding IP addresses, the preliminary set of domain names and corresponding IP addresses representing a selected set of addresses in an IP network

to which the customer premises equipment interface is entitled to have access based on restrictions made by a network entity;

means for enabling the processor to receive a domain name system query from said customer premises equipment interface, said query including an unresolved domain name;

means for enabling the processor to determine if said unresolved domain name is stored in the cache;

means for enabling the processor to obtain an IP address corresponding to said unresolved domain name from the cache, generate a response to said query that includes said IP address corresponding to said unresolved domain name, and provide said response to the customer premises equipment interface, if said unresolved domain name is stored in the cache; and

means for enabling the processor to provide said query to the network interface if said unresolved domain name is not stored in the cache.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest "means for enabling the processor to load the cache with a preliminary set of domain names and corresponding IP addresses, the preliminary set of domain names and corresponding IP addresses representing a selected set of addresses in an IP network to which the customer premises equipment interface is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 27 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, dependent claim 28 is also not rendered obvious by Eicon and Huitema for at least the same reasons as independent claim 27 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 28 under 35 U.S.C. § 103(a) is also traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 16, 26, and 32

The Examiner has rejected claims 16, 26, and 32 under 35 U.S.C. § 103(a) as being obvious over Eicon in view of Huitema.

Independent claim 16 recites a "method for caching domain name system information in a network gateway that includes a customer premises equipment interface, a network interface, and a cache for storing domain names and corresponding IP addresses." The recited method of claim 16 as amended includes:

loading the cache with a preliminary set of domain names and corresponding IP addresses;

receiving a domain name system response from a network over the network interface;

determining if said response includes a response domain name and an IP address corresponding to said response domain name;

if said response includes a response domain name and an IP address corresponding to said response domain name, storing said response domain name and said IP address corresponding to said response domain name in the cache, and providing said response to the customer premises equipment interface for transmission to a customer premises equipment; and

if said response does not include a response domain name and an IP address corresponding to said response domain name, providing said response to the customer premises equipment interface for transmission to said customer premises equipment without storing any information in the cache;

wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest "loading the cache with a preliminary set of domain

names and corresponding IP addresses ... wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 16 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Independent claim 26 recites a "network gateway." The recited network gateway of claim 26 as amended includes:

a memory, said memory comprising a cache that stores domain names and corresponding IP addresses, wherein said cache is loaded with a preliminary set of domain names and corresponding IP addresses;

a customer premises equipment interface that communicates with a customer premises equipment;

a network interface that receives a domain name system response from a network; and

a processor coupled to said memory, said customer premises equipment interface, and said network interface, said processor configured to receive said response from said network interface and determine if said response includes a response domain name and an IP address corresponding to said response domain name;

wherein said processor is further configured such that, if said response includes a response domain name and an IP address corresponding to said response domain name, said processor stores said response domain name and said IP address corresponding to said response domain name in said cache and provides said response to said customer premises equipment interface for transmission to said customer premises equipment;

wherein said processor is further configured such that, if said response does not include a response domain name and an IP address corresponding to said response domain name, said processor provides said response to said customer premises

equipment interface for transmission to said customer premises equipment without storing any information in said cache; and

wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest a cache that is "loaded with a preliminary set of domain names and corresponding IP addresses ... wherein the preliminary set of domain names and corresponding IP addresses represent a selected set of addresses in an IP network to which the customer premises equipment is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 26 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Independent claim 32 recites a "computer program product comprising a computer useable medium having computer program logic for enabling a processor in a network gateway to perform caching of domain name system information, the network gateway further including a customer premises equipment interface, a network interface, and a cache for storing domain names and corresponding IP addresses." The computer program product of claim 32 as amended includes:

means for enabling the processor to load the cache with a preliminary set of domain names and corresponding IP addresses, the preliminary set of domain names and corresponding IP addresses representing a selected set of addresses in an IP network to which the customer premises equipment interface is entitled to have access based on restrictions made by a network entity;

means for enabling the processor to receive a domain name system response from the network interface, said response

including a response domain name and an IP address corresponding to said response domain name;

means for enabling the processor to store said response domain name and said IP address corresponding to said response domain name in the cache; and

means for enabling the processor to provide said response to the customer premises equipment interface.

For the reasons set forth above with regard to independent claim 1, Eicon and Huitema do not teach or suggest "means for enabling the processor to load the cache with a preliminary set of domain names and corresponding IP addresses, the preliminary set of domain names and corresponding IP addresses representing a selected set of addresses in an IP network to which the customer premises equipment interface is entitled to have access based on restrictions made by a network entity." Accordingly, the Examiner's rejection of claim 32 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 4 and 5

The Examiner has rejected claims 4 and 5 under 35 U.S.C. § 103(a) as being obvious over Eicon in view of Huitema and further in view of U.S. Patent 6,262,987 to Mogul ("Mogul").

Claims 4 and 5 depend from independent claim 1. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 1. Mogul does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Mogul cannot render claim 1 obvious. Claims 4 and 5 are likewise not rendered obvious by the combination of Eicon, Huitema, and Mogul for at least the same

reasons as independent claim 1 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 4 and 5 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 6, 7, 9, 10, 13, 14, 22, 23, 25, 30, 31, and 33

The Examiner has rejected claims 6, 7, 9, 10, 13, 14, 22, 23, 25, 30, 31, and 33 under 35 U.S.C. 103(a) as being obvious over Eicon in view of Huitema further in view of U.S. Publication No. 2003/0012147 to Buckman *et al.* ("Buckman").

Claims 6, 7, 9, and 10 depend from independent claim 1. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 1. Buckman does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Buckman cannot render claim 1 obvious. Claims 6, 7, 9, and 10 are likewise not rendered obvious by the combination of Eicon, Huitema, and Buckman for at least the same reasons as independent claim 1 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 6, 7, 9, and 10 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 13 and 14 depend from independent claim 12. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 12. Buckman does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Buckman cannot render claim 12 obvious. Claims 13 and 14 are likewise not rendered obvious by the combination of Eicon, Huitema, and Buckman for

at least the same reasons as independent claim 12 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 13 and 14 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 22 and 23 depend from independent claim 17. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 17. Buckman does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Buckman cannot render claim 17 obvious. Claims 22 and 23 are likewise not rendered obvious by the combination of Eicon, Huitema, and Buckman for at least the same reasons as independent claim 17 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 22 and 23 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claim 25 depends from independent claim 24. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 24. Buckman does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Buckman cannot render claim 24 obvious. Claim 25 is likewise not rendered obvious by the combination of Eicon, Huitema, and Buckman for at least the same reasons as independent claim 24 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 25 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 30 and 31 depend from independent claim 27. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 27. Buckman does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Buckman cannot render claim 27 obvious. Claims 30 and 31 are likewise not rendered obvious by the combination of Eicon, Huitema, and Buckman for at least the same reasons as independent claim 27 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 30 and 31 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claim 33 depends from independent claim 32. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 32. Buckman does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Buckman cannot render claim 32 obvious. Claim 33 is likewise not rendered obvious by the combination of Eicon, Huitema, and Buckman for at least the same reasons as independent claim 32 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 33 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claims 8, 11, and 15

The Examiner has rejected claims 8, 11, and 15 under 35 U.S.C. 103(a) as being obvious over Eicon in view of Huitema, further in view of Buckman, and further in view

of RFC 1035 "Domain Names - Implementation and Specification" to Mockapetris ("RFC 1035").

Claims 8 and 11 depend from independent claim 1. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 1. Buckman and RFC 1035 do not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, Buckman, and RFC 1035 cannot render claim 1 obvious. Claims 8 and 11 are likewise not rendered obvious by the combination of Eicon, Huitema, Buckman, and RFC 1035 for at least the same reasons as independent claim 1 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 8 and 11 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claim 15 depends from independent claim 12. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 12. Buckman and RFC 1035 do not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, Buckman, and RFC 1035 cannot render claim 12 obvious. Claim 15 is likewise not rendered obvious by the combination of Eicon, Huitema, Buckman, and RFC 1035 for at least the same reasons as independent claim 12 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 15 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claim 20

The Examiner has rejected claim 20 under 35 U.S.C. 103(a) as being obvious over Eicon in view of Huitema and further in view of "Practical Internet" to Kasser ("Kasser").

Claim 20 depends from independent claim 17. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 17. Kasser does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Kasser cannot render claim 17 obvious. Claim 20 is likewise not rendered obvious by the combination of Eicon, Huitema, and Kasser for at least the same reasons as independent claim 17 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 20 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Claim 21

The Examiner has rejected claim 21 under 35 U.S.C. 103(a) as being obvious over Eicon in view of Huitema and further in view of "Sams Teach Yourself PCs in 24 Hours" to Perry ("Perry").

Claim 21 depends from independent claim 17. As set forth above, Eicon and Huitema do not teach or suggest each and every feature of independent claim 17. Perry does not supply the missing teaching or suggestion. Thus, the combination of Eicon, Huitema, and Perry cannot render claim 17 obvious. Claim 21 is likewise not rendered obvious by the combination of Eicon, Huitema, and Perry for at least the same reasons as independent claim 17 from which it depends and further in view of its own respective

features. Accordingly, the Examiner's rejection of claim 21 under 35 U.S.C. 103(a) is traversed and Applicants respectfully request that the rejection be withdrawn.

Other Matters

The Examiner states a rejection of claim 29 on page 6 of the Office Action.

Claim 29 was previously canceled in the Amendment and Reply Under 37 C.F.R. § 1.111 filed on September 29, 2005.

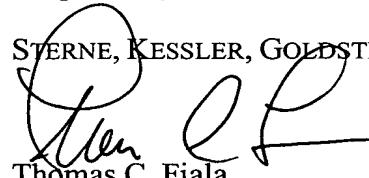
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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